S H A R P

Date Revised: Apr. 8. 2008
Date Issued :May. 28.1998

MATERIAL SAFETY DATA SHEET (1/4)

MSDS

No. B-1020

Section 1. Product and Company Identification

Product Name : Toner Cartridge of FO-47ND / FO-47DC / FO-47DCCN / FO-44ND / FO-50ND / FO-59DC / DUNT-455BSCZZ

Supplier Identification : Sharp Corporation
22-22 Nagaike-cho, Abeno-ku, Osaka, Japan
Local suppliers are listed below. Please contact the nearest supplier for additional information.

Area	Country	Name and Telephone Number
North America	U.S.A	Sharp Electronics Corporation Telephone number for information : 1-800-237-4277 Emergency telephone number : 1-800-255-3924
	Canada	Sharp Electronics of Canada Ltd. Telephone number for information : 905-890-2100 Emergency telephone number : 1-800-424-9300
Oceania	Australia	**AUSTRALIA** SHARP CORPORATION OF AUSTRALIA PTY. LTD.: (Phone) 02-9830-4600, 1800 807 820
	New Zealand	**NEW ZEALAND** SHARP CORPORATION OF NEW ZEALAND LTD.: (Phone) 09-634-2059
Europe	Germany	Sharp Electronics (Europe) GMBH Sonninstrasse 3, 20097 Hamburg Telephone number to access MSDS **:** 040-2376-2185 For more information **:** 040-2376-2613
	United Kingdom	Sharp Electronics (U. K.) Ltd. Telephone number for information : 01923-474013
	France	Sharp Electronics France S.A. Telephone number for information **:** 01-49-90-34-00
	Austria	Sharp Electronics GMBH Telephone number for information **:** 01-727-19-0
	Italy	Sharp Electronics (Italy) S.P.A. Telephone number for information **:** 02895951
	Spain	Sharp Electronics (Espana) S.A. Telephone number for information **:** 93-581-97-00
	Netherlands	Sharp Electronics Benelux B.V. Telephone number for information **:** 30-6359500
	Sweden	Sharp Electronics Nordic AB Telephone number for information **:** 08-634-36-00
Middle East	U.A.E.	Sharp Middle East FZE P.O.Box 17115 Jebel Ali, Dubai Telephone number for information **:** 04-815311

Section 2. Ingredients

Ingredients	Cas No.	Proportion	OSHA Z-Tables	ACGIH TLV	IARC	DFG-MAK(GER)	Other Limits
Polyester resin	Trade Secret	>90%	—	—	—	—	—
(Trade secret No. 361615 -5042-P in New Jersey)							
Carbon black	1333-86-4	1-5%	3.5mg/m3	3.5mg/m3	2B	III 3B	TWA(Austl) : 3 mg/m^3
(EEC-No. 215-609-9)							
Polyolefin wax	9003-07-0	1-5%	—	—	—	—	—
Organic pigment	Trade Secret	1-5%	—	—	—	—	—
(Trade secret No. 361615 -5025-P in New Jersey)							

Section 3. Hazardous Identification

Classification : Not classified as dangerous. (1999/45/EC)

Most Important Hazards and Effects of the Products

For Human Health: This toner is not classified as a human carcinogen. No symptoms expected with intended use.

For the Environment: No data are available on the adverse effects of this product on the environment.

For others: None

Specific hazards: Dust explosion (like most finely divided organic powders)

Section 4. First-Aid Measures

Symptoms of Overexposure: No symptoms expected with intended use.

Routes of Entry: Eye contact, inhalation, ingestion

Information

Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air and obtain medical advice.

Skin Contact: Flush with gently flowing water (preferably lukewarm) and soap for 15 minutes or until particle is removed. If irritation does occur, obtain medical advice.

Eye Contact: Do not allow victim to rub eye(s). Flush with gently flowing water (preferably lukewarm) for 15 minutes or until particle is removed. Have victim look right and left, and, then up and down. If irritation does occur, obtain medical attention. DO NOT attempt to manually remove anything stuck to the eye(s).

Ingestion: If irritation or discomfort occurs, obtain medical attention immediately.

Note to Physician: None

Section 5. Fire-Fighting Measures

Suitable Extinguishing Media: CO_2, water spray, foam and dry chemical

Extinguishing Media to Avoid: Full water jet

Special Firefighting Procedures: None

Fire and Explosion Hazards: If dispersed in air, like most finely divided organic powders, may form an explosive mixture.

Protection of Firefighters: Use self-contained breathing apparatus (SCBA).

Section 6. Accidental Release Measures

Personal Precautions: None

Environmental Precautions: None

Methods for Cleaning Up: Wipe off with paper or cloth. DO NOT use vacuum cleaner when a large amount is released. It, like most finely divided organic powders, may create a dust explosion.

Section 7. Handling and Storage

Handling

Technical Measures: None

Precautions: None

Safe Handling Advice: Try not to disperse the particles.

Storage

Technical Measures: None

Storage Conditions: Keep container closed. Store in a cool and dry place. Keep out of reach of children.

Incompatible Products: None

Section 8. Exposure Control/Personal Protection

Engineering Measures

Ventilation: None required with intended use.

Control Parameters(As total dust)

OSHA-PEL(USA): 15mg/m3 ACGIH-TLV(USA): 10mg/m3 DFG-MAK(GER): 4mg/m3 Worksafe-TWA(Austl.): 10mg/m3

Personal Protective Equipment

None required when used as intended in Sharp equipment. For use other than normal customer-operating procedures (such as in bulk toner processing facilities), goggles and respirators may be required.

Hygiene Measures: Wash hands after handling.

Section 9. Physical and Chemical Properties

Appearance

Physical State: Solid Form: Powder Color: Black

Odor:	Faint odor	Explosion Properties:	No data available
Particle Size(μm):	5 - 15	Density(g/cm³):	1.2 (bulk density: 0.5)
Boiling Point:	Not applicable	Solubility in water:	Negligible
Melting Point(°C):	No data available	Oxidizing Properties:	No data available
Softening Point(°C):	120 - 130 *	Ignition Temperature(°C):	450 *
Flash Point:	Not applicable	Vapor Pressure:	Not applicable
pH:	Not applicable		

Partition Coefficient, n-Octanol/Water: Not applicable
(*=Based on data for other products with similar ingredients)

Section 10. Stability and Reactivity

Stability: Stable [X] Unstable [ ]
Hazardous Reactions: Dust explosion, like most finely divided organic powders.
Conditions to avoid: Electric discharge, throwing into fire.
Materials to Avoid: Oxidizing materials.
Hazardous Decomposition Products: CO, CO2

Section 11. Toxicological Information

Health Effects from Exposure: No symptoms expected with intended use.
Toxicological Data
Acute Toxicity:
Inhalation, LC50(mg/l): >0.74 (Rat,4hour) * (This was the highest attainable concentration.)
Ingestion(oral), LD50(mg/kg): >5000 (Rat) *
Dermal, LD50(mg/kg): >2000 (Rat) *
Eye irritation: Non irritant (Rabbit) *
Skin irritation: Non irritant (Rabbit) *
Skin sensitizer: No data available
Mutagenicity: Negative * (AMES test)
(*= Based on data for other products with similar ingredients)
Local Effects: see Chronic Toxicity or Long term Toxicity
Chronic Toxicity or Long Term Toxicity: Prolonged inhalation of excessive dust may cause lung damage. It is attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust.
In a study in rats by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of rats in the high concentration(16mg/m^3) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle(4mg/m^3) exposure group. But no pulmonary change was reported in the lowest(1mg/m^3) exposure group, the most relevant level to potential human exposures.
Carcinogenicity
IARC Monographs: Not listed
NTP(USA): Not listed
OSHA Regulated(USA): Not listed
In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This evaluation is given to Carbon Black for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung.
Studies performed in animal models other than rats have not demonstrated an association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

Section 12. Ecological Information

No data are available on the adverse effects of this material on the environment.

Section 13. Disposal Consideration

Appropriate Methods of Disposal
Preparation(community provisions): Waste may be disposed or incinerated under conditions which meet all federal, state and local environmental regulations.
Contaminated Packaging: Waste may be disposed or incinerated under conditions which meet all federal, state and local

environmental regulations.

Precautions: Do not throw the toner cartridge or toner into an open flame. The hot toner may scatter and cause burns or other damage.

Section 14. Transport Information

Special Precautions: None

Information on Code and Classifications According to International Regulations

UN Classification: None

Section 15. Regulatory Information

US Information

Information on the label: Not required

TSCA(Toxic Substances Control Act):

All chemical substances in this product comply with all applicable rules or order under TSCA.

SARA(Superfund Amendments and Reauthorization Act) Title III

302 Extreme Hazardous Substance: None

311/312 Hazard Categories: None

313 Reportable Ingredients: None

California Proposition 65:

This product contains no chemical substances subject to California Proposition 65.

EU Information

Information on the label (1999/45/EC and 67/548/EEC) :

Symbol & Indication : Not required

R-phrase : Not required

S-phrase : Not required

76/769/EEC:

All chemical substances in this product comply with all applicable rules or order under 76/769/EEC.

Article 14 (2.1) of Directive 1999 / 45 / EC is not applicable to this product.

Section 16. Other Information

NFPA Hazard Rating: The National Fire Protection Agency(USA): Health: 1 Flammability: 1 Reactivity: 0

HMIS Rating: The National Paint and Coating Association(USA): Health: 1 Flammability: 1 Reactivity: 0

Recommended Uses: Toner for Electrophotographic Equipment

Restrictions: This information relates only to the specific material designated as supplied by the manufacturer. This information is supplied to us by the manufacturer and Sharp offers no warranties as to its accuracy and accepts no responsibilities for any typographical errors which may appear on these sheets. It is the responsibility of the user to determine the suitability of this product for each particular use.

Literature References:

ANSI Z400.1-1993

ISO 11014-1

Commission Directive 91/155/EEC

IARC(1996): IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing Inks, Carbon Black and Some Nitro Compounds, Lyon, pp.149-261

H.Muhle, B.Bellmann, O.Creutzenberg, C.Dasenbrock, H.Ernst, R.Kilpper, J.C.MacKenzie, P.Morrow, U.Mohr, S.Takenaka, and R.Mermelstein(1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp.280-299.

Rivision Record :

Apr. / 8 / 2008	Periodical review	→
Apr. / 23 / 2003	Addition : Section 2 : EEC-No. 215-609-9 for Carbon black	
Apr. / 23 / 2003	Change : Section 8 : DFG-MAK (GER) : 6mg/m3	4mg/m3

S H A R P

Date Revised: Apr. 8. 2008
Date Issued :May. 28.1998

MATERIAL SAFETY DATA SHEET (5/4)

MSDS

No. B-1020

Oct. / 7 / 2002	Addition	: Contact information
	Change	: Section 15 EU information : “88 / 379 / EEC “ “1999 / 45 / EC”
July / 22/2002	Addition	: Product Name FO-44ND / FO-50ND

→